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10/827,383	04/20/2004	Hideaki Shibata	60188-840	3796

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EXAMINER	
WERNER, DAVID N	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/827,383	SHIBATA, HIDEAKI	
	Examiner	Art Unit	
	David N. Werner	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) *4-6,9,10,12,14,18-20,23,24,26 and 28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7,8,11,13,15-17,21,22,25 and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 April 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20040420*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is the First Action on the Merits for US Patent Application 10/827383, which claims priority from Japanese Patent Application 2003-295594, filed on 19 August 2003. Currently, claims 1-28 are pending. Of those, claims 4-6, 9, 10, 12, 14, 18-20, 23, 24, 26 and 28 have been withdrawn from consideration.

Election/Restrictions

2. Claims 4-6, 9, 10, 12, 14, 18-20, 23, 24, 26, and 28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 29 November 2007.

3. Applicant's election without traverse of claims 1-3, 7, 8, 11, 13, 15-17, 21, 22, 25, and 27 in the reply filed on 29 November 2007 is acknowledged.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "third coding section" of claim 2 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 10-16, mentioned in page 1: lines 12-24 of the specification. It is suggested that figure 1 of JP 11-313331 A be incorporated as figure 5 in the present specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one

figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to because in figure 2C, the word "coded" is misspelled as "oded". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

8. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Moving Image Coding and Transcoding Apparatus and Method Using Control Information".

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1, 7, 8, 15, 21, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted element is: by what the first time T is divided to obtain the plurality of second times Tr.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 7 and 21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by US Patent 5,659,539 A (Porter et al.). Porter et al. teaches a system for distributing digital video files over a network. Regarding claims 7 and 21, the system of Porter et al. includes a Tag File Generator that generates a tag file from a stored MPEG file, or produces the tag file in real time as the MPEG file is also produced (column 7: lines 26-37). Figure 2b shows the structure of the tag file (column 9: lines 8-15). Included in the tag file is a play duration indicator 208 which specifies the amount of time needed to play back the file (column 9: lines 20-22), corresponding with the claimed "first time (T)", and a length indicator 204 which indicates a file size (column 9: lines 17-18), corresponding with the claimed "first information amount (V)". In an MPEG-2 embodiment of Porter et al., each frame includes a time value 228, indicated the time within the video in which the particular frame will be played, corresponding with the claimed "second time (Tr)", and a picture size 220, indicating the size of the current picture, corresponding with the claimed "third information amount (Vi)". In an MPEG-1 embodiment, shown in figure 2c, each frame includes a time value 241 and a picture size 233.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 1-3, 8, 11, 13, 15-17, 22, 25, and 27 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,574,272 B2 (Obata et al.), of which the corresponding Japanese Patent Application Publication 11-313331 A was cited in the Information Disclosure Statement, in view of Porter et al., and in view of US Patent 6,587,508 B1 (Hanamura et al.). Independent claims 1, 8, 15, and 22 are directed to video transcoders that perform a process of encoding, decoding, and reëncoding.

Obata et al. teaches a system for processing video signals. Regarding claims 1, 8, 15, and 22, figure 6 of Obata et al. illustrates an embodiment of the invention. Included are MPEG encoder 65 which compresses an incoming signal and MPEG decoder 77, which decompresses a signal stored on disc 71 (column 13: line 15–column 14: line 29). Then, encoder 65 corresponds with the claimed "first coding section" performing the claimed “first coding step”, and decoder 74 corresponds with the claimed "decoding section” performing the claimed “decoding step”. If the encoder 65 in Obata et al. is embodied as the Porter et al. coder with a tag file generator, then this encoder produces the claimed “control information” of the first time T, the first information amount V, the second times Tr, and the third information amount Vi, as described in the analysis of claims 7 and 21 above. In addition, in a re-encoding mode, the decoded video output from decoder 74 may be output via digital output terminal 78 and analog output terminal 80, while fed back into encoder 65 via switch SW1 (column 14: lines 49-

51; column 15: lines 9-16). Then, encoder 65 may also serve as the claimed "second coding section" in claims 1 and 8 performing the claimed "second coding step" in claims 15 and 22. During the decoding and reëncoding process of Obata et al., parameters such as picture type, motion vectors, number of bits per frame and average quantizing scale are supplied to the encoder to effectively match the quality of the re-encoded video to the original video (column 8: lines 10-37). Then, the reëncoding of Obata et al. uses "the control information obtained" from the first coding.

Obata et al. teaches a plurality of the present invention except for specifying certain control information when performing a video signal processing. Porter et al. teaches that it was known to generate a metadata file for an associated video file during video coding. Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to incorporate the tag file generator of Porter et al. into the encoder of Obata et al., since Porter et al. states in column 3: lines 54-59 that such a modification would enable indexing for trick play modes of the video.

However, while the present invention is directed to coding a signal a second time according to a second information amount, the transcoder in Obata is designed to preserve the bitrate and frame size of a processed video by recycling the average quantization parameter for each frame.

Hanamura et al. teaches a video transcoder with a rate controller. Regarding claims 1, 8, 15, and 22, figure 1 shows an embodiment of Hanamura et al. that changes the bitrate of a stream from an input bitrate to a target bit rate

(column 18: lines 49-65). The transcoder determines the number of input bits S(in) and the number of output bits S(out) of a signal (column 19: lines 31-42), corresponding with the claimed first and second information amounts. The transcoder then determines a number of remaining input bits R(in) and a number of remaining output bits R(out) and uses this information to determine a target ratio of input and output bitrate (column 19: lines 42-55; column 21: lines 1-8). A quantization parameter computing unit 107 then adjusts the quantization parameter of each macroblock according to the current target bit ratio and target bit rate (column 21: lines 46-63).

Obata et al., in combination with Porter et al., discloses the claimed invention except for reëncoding video according to a second target file size. Hanamura et al. teaches that it was known to adjust the bit rate of a video in a transcoder according to an input signal size and an output signal size. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the rate controller of Hanamura et al. into the transcoder of Obata et al., since Hanamura et al. states in column 1: lines 23-24 that such a modification would reduce the bit rate of the coded video.

Regarding claims 2 and 16, in Porter et al., the Tag File Generator that actually builds the metadata file for an encoded video corresponds with the claimed "third coding section" of claim 2 that performs the claimed "third coding step" of claim 16. Also, in Porter et al., in MPEG-2 video, as shown in figure 2b, a total length indicator 204 may be the sum of the picture sizes 220 for every

frame and the offsets of non-video data, and in MPEG-1 video, shown in figure 2c, a length indicator 204 may be the sum of the picture sizes 233 for every frame and the amount of non-video data and padding data 223. Lastly, as discussed regarding claims 1 and 15 above, in Obata et al., the number of bits per frame is transmitted with a decoded picture for reëncoding, and in Hanamura et al., the input bit rate and number of input bits are extracted from an input signal to perform the second compression.

Regarding claims 3 and 17, Hanamura et al. performs a target ratio ioRatio(n) as the ratio between the output bit rate and the input bit rate (column 21: lines 1-7), equivalent to the claimed ratio R/V. Then, since in Hanamura et al., the number of bits output S(out) is the actual number of output bits, it is inherent that this value is equal to the number of bits input S(in) multiplied by the target bit ratio.

Regarding claims 11, 13, 25, and 27, in Hanamura et al., the output target bit rate is lower than the input bit rate (column 18: lines 60-61).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 6,167,084 A (Wang et al.) teaches a statistical multiplexer that dynamically allocates the amounts of bits from various input video bit streams. US Patent 6,208,688 B1 (Seo et al.) teaches a method for controlling a video bit rate by choosing a requantization step size. US Patent 6560,282 B2 (Tahara et al.) teaches a transcoder that stores past encoding

parameters to optimize a second encoding. US Patent 7,170,938 B1 (Cote et al.) teaches a rate control system for a video transcoder. Us Patent Application Publication 2002/0122481 A1 (Mine) teaches a transcoder that changes bit rate by requantizing. US Patent Application Publication 2003/0001964 A1 (Masukura et al.) teaches a format conversion system that uses parameters from the first video format for encoding in the second video format. US patent Application Publication 2003/0067981 A1 (Zhao et al.) teaches a video encoder that has multiple bit budgets for different levels of video signals, such as scene, frame, and macroblock.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID N. WERNER whose telephone number is (571)272-9662. The examiner can normally be reached on MWF from 9:00-6:30, TR from 9:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

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DNW

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